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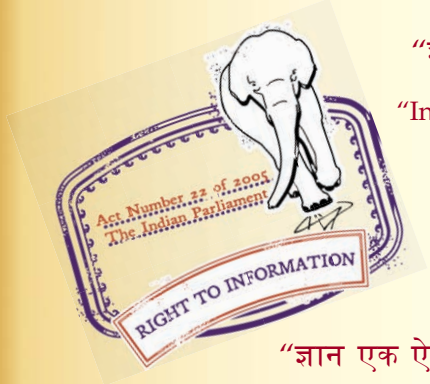
IS 8744 (1978): Rotary letterpress newsprint ink, black
[CHD 14: Printing, Inks, Stationary and Allied Products]



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SPECIFICATION FOR ROTARY LETTERPRESS NEWSPRINT INK, BLACK

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SPECIFICATION FOR ROTARY LETTERPRESS NEWSPRINT INK, BLACK

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SPECIFICATION FOR ROTARY LETTERPRESS NEWSPRINT INK, BLACK

0. FOREWORD

0.1 This Indian Standard was adopted by the Indian Standards Institution on 10 March 1978, after the draft finalized by the Printing Inks and Allied Products Sectional Committee had been approved by the Chemical Division Council.

0.2 In the preparation of this standard assistance has been derived from the following publication:

KS M 5954-1966 Printing ink for newspaper, black, Korean Bureau of Standards.

IS : 76-1955 Specification for news ink for rotary presses, Irish Institute for Industrial Research and Standards.

0.3 Some of the characteristics of letterpress newsprint ink depend upon the speed of the machine. Newspaper rotary machines are available with varying speed from 15 000 to 60 000 copies per hour.

0.4 In view of the varying quality of newsprint paper being used by different printers depending upon the source of import and the consequent difficulty in formulating an Indian Standard on the subject, the requirements of some of the tests could not be specified. Comparative tests against an approved/standard sample have been accepted as giving reliable measure for such characteristics.

0.5 This standard requires reference to IS : 6931-1972* which is a necessary adjunct to it.

0.6 For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS : 2-1960†. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

*Methods of test for printing inks.

†Rules for rounding off numerical values (*revised*).

1. SCOPE

1.1 This standard prescribes the requirements and the methods of sampling and test for rotary letterpress newsprint ink, black.

2. TERMINOLOGY

2.1 For the purpose of this standard, the definitions given in IS : 4724-1968* and the following shall apply.

2.1.1 *Approved/Standard Sample* — The sample accepted by the indentor or inspection authority as the basis of supply/manufacture.

3. TYPES

3.1 The material shall be of the following two types:

Type 1 — for high speed rotary machines

Type 2 — for low speed rotary machines

4. REQUIREMENTS

4.1 Description

4.1.1 The material shall consist essentially of a dispersion of carbon black in suitable blends of mineral/vegetable oil with or without toner.

4.1.2 The material shall dry only by penetration/absorption into the paper.

4.1.3 The material shall distribute freely, work sharp and shall be free from excessive objectionable odour.

4.1.4 The ink shall be free from flying and misting at the printing speed.

4.2 Composition — The ink shall contain not less than 9 percent by mass of solvent extracted residue when determined by the method prescribed in **4.12** of IS : 6931-1972†.

4.3 Hue (Shade) — When tested by the method prescribed in **4.1** of IS : 6931-1972†, the hue shall be comparable with the approved/standard sample.

4.4 Tinting Strength — The tinting strength of the ink shall be within ±5 percent of the approved/standard ink, when tested by the method prescribed in **4.2** of IS : 6931-1972†.

*Glossary of terms relating to printing inks and allied industries.
†Methods of tests for printing inks.

4.5 Fineness of Dispersion and Coarse Particles — When tested for fineness of dispersion of pigment particles in the medium by the method prescribed in **4.5** of IS : 6931-1972*, the material shall not be coarser than 10 microns.

4.6 Viscosity — The viscosity of Type 1 ink at 27 ±2°C when determined by the flow cup method prescribed at **4.4.2** of IS : 6931-1972* shall be 300 to 800 seconds. For Type 2 ink, the viscosity shall be as agreed to between the purchaser and the supplier.

4.7 Flowability — The flowability of the ink when tested by the method prescribed in Appendix A shall be equal to that of approved/standard sample.

4.8 Penetration and Permeability — When tested by the method prescribed in Appendix B, the penetration and permeability of the material shall be equal to those of approved/standard sample.

4.9 Drying Time on Paper — The drying time of the ink shall be not more than 2 minutes for Type 1 and not more than 5 minutes for Type 2 when determined by the method prescribed in Appendix C.

4.10 Printing Strength, Distribution and Covering Power — When tested by the method prescribed in **4.6** of IS : 6931-1972* using newsprint paper, the ink shall be considered to possess satisfactory covering power and distribution property if no white areas or specks show through the dried film of the ink.

4.11 Strike Through — The ink shall not exhibit strike through more than the approved/standard sample when adjudged by the method prescribed in **4.7** of IS : 6931-1972* on the same type of newsprint paper.

5. PACKING AND MARKING

5.1 The material shall be packed in steel drums and shall be marked with the following information:

a) Name and type of the material;

b) Net mass;

c) Month and year of packing;

d) Name of the manufacturer and/or his recognized trade-mark, if any; and

e) Lot number in code or otherwise.

*Methods of test for printing inks.

5.1.1 The material may also be marked with the ISI Certification Mark.

NOTE — The use of the ISI Certification Mark is governed by the provisions of the Indian Standards Institution (Certification Marks) Act and the Rules and Regulations made thereunder. The ISI Mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well-defined system of inspection, testing and quality control which is devised and supervised by ISI and operated by the producer. ISI marked products are also continuously checked by ISI for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the ISI Certification Mark may be granted to manufacturers or processors, may be obtained from the Indian Standards Institution.

6. SAMPLING

6.1 The method of drawing representative samples of the material, number of tests to be performed and the criteria for conformity of the material to the requirements of this specification shall be as prescribed in Appendix A of IS : 6931-1972*.

APPENDIX A

(*Clause* 4.7)

DETERMINATION OF FLOWABILITY

A-1. APPARATUS

A-1.1 Flow Gauge — as shown in Fig. 1. It shall consist of a glass plate with a holder to support. The glass plate shall be about 120 × 165 mm, and its surface shall be clean and smooth. The face opposite to that on which ink drops are placed shall be cross-lined.

A-1.2 Dropping Rod — It shall be of brass, 5 mm in diameter and 150 mm in length with one end rounded into a half sphere. A mark is provided at a distance of 30 mm from the rounded tip.

A-2. PROCEDURE

A-2.1 Dip the dropping rod in the well-mixed sample of the ink at 27 ± 2°C to the 30 mm mark. Remove the rod vertically and after the dripping line from the rod has stopped, allow two drops of the ink to drop on the marking line of the glass plate. Immediately place the glass plate vertically in the holder as shown in Fig. 1, and allow the ink drops to flow down the glass plate for 10 minutes.

*Methods of test for printing inks.

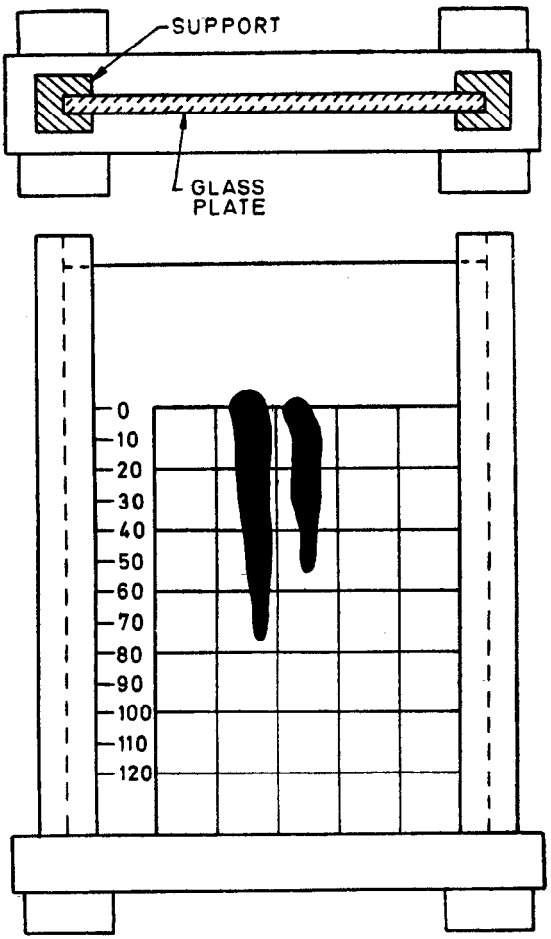

FIG. 1 FLOW GAUGE

A-2.1.1 Repeat the test in the same manner with the approved/standard ink. The material shall be considered satisfactory if the length of the flow of the sample is equal to that of approved/standard ink.

APPENDIX B

(*Clause* 4.8)

DETERMINATION OF PENETRATION AND PERMEABILITY

B-1. APPARATUS

B-1.1 Dropping Rod — same as in **A-1.2.**

B-2. PROCEDURE

B-2.1 Dip the dropping rod in the well-mixed sample of the ink at 27 ± 2°C to the 30 mm mark and remove it out vertically. After the dripping line from the rod has stopped, transfer a drop of the ink on a sheet of newsprint paper. Measure the diameter of the portion of the paper penetrated by the vehicle after 10, 30 and 60 minutes. At each time interval measure the long and short diameters, and report the average in millimetres. Repeat the test in a similar manner with the approved/standard ink, using the same type of newsprint paper.

B-2.2 The material shall conform to the requirements of the test if the average diameter after 10, 30 and 60 minutes is the same as that for the approved/standard ink.

APPENDIX C

(*Clause* 4.9)

DETERMINATION OF DRYING TIME ON PAPER

C-1. PROCEDURE

C-1.1 Pour the well-mixed sample of the ink at 27 ± 2°C on a sheet of newsprint paper and take a draw-down with a flat-edged steel spatula. Place a piece of newsprint paper about 120 mm in length and 20 mm in width hereafter called 'transfer paper' at right angles to the newsprint paper. Using fingers, lightly press the transfer paper in the direction of the longer edge and at the same time pushing the paper across the bottom paper. Remove the transfer paper and examine. If the transfer paper is smudged, it shall be considered not dry. Repeat the test until no smudge is observed on the transfer paper, and determine the drying time in minutes.

C-1.2 The ink shall be considered to have satisfactory drying property if the drying time is not above the limit specified in **4.9.**